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POSTEPILEPTIC PHENOMENA.

*Read in the Section of Medicine at the Annual Meeting
of the British Medical Association at Liverpool,
August, 1883.*

BY

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Senior Physician to the Hospital for Epilepsy and Paralysis, Regent's Park.

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ON SOME POSTEPILEPTIC PHENOMENA.

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IN this communication, I wish to draw attention to certain either acute or chronic alterations of the mental faculties which have fallen under my notice, as direct consequences of epileptic attacks. I shall purposely exclude, in discussing this matter, any cases in which epileptiform seizures took place in consequence of gross organic lesions, such as tumour of the brain, chronic inflammation of the membranes and the grey surface of that organ, blood-poisoning of various kinds, and other diseases in which the convulsive paroxysms were only one symptom amongst many others; and I shall confine myself strictly to the consideration of those cases in which epilepsy occurred as a true neurosis, that still mysterious and unexplained functional disease of the grey matter of the brain, which is possibly owing to some kind of imperfect nutrition, but certainly not to any such structural alterations as would reveal themselves to our present means of research.

The paper is based on an analysis of the cases of 250 epileptic patients which have been under my care, in private and hospital practice, during a period of six years. Amongst these cases there were 89, or 35.6 per cent., in which no perceptible temporary or permanent alteration in the mental condition, which could be ascribed to the epilepsy, was to be ascertained; while in 161 cases, or 64.4 per cent., such alterations did occur. Of the 89 cases which escaped mental deterioration, 61, or 68.5 per cent., were instances of nocturnal epilepsy, while in 28, or 31.4 per cent., attacks took place in the daytime. All, however, which escaped were cases of typical convulsive attacks; while, in all cases of loss of consciousness without convulsion, or *petit mal*, and epileptic vertigo or automatism, a more or less permanent mental alteration was induced. Amongst the 161 cases which were followed by mind-affection, there were:

- 123 cases (or 76.5 per cent.) of typical convulsive attacks;
- 26 „ (or 16.1 per cent.) of *petit mal*; and
- 12 „ (or 7.4 per cent.) of epileptic automatism.

Amongst these patients there were 91 males, or 56.5 per cent., and 70 females, or 43.5 per cent. The ages of the whole series varied from 5 to 62; and when these were distributed over decades, it appeared that the decade from 5 to 15 was at the bottom of the list with 10.5 per cent.; while that between 15 and 25 headed the list with 24 per cent., the other decades being very nearly even, with a medium of about 16 per cent. The hereditary influence was marked in 66 cases, or 40.9 per cent. The nature of other predisposing or exciting causes, as far as they could be ascertained, did not appear to have exerted any special influence, since they were much of the same kind as in those cases in which the mind was not affected. I will, in passing, remark, that I have excluded from the present considerations those cases which were apparently owing to injury to the head, syphilis, and masturbation, as these are of a complex character, and will be subsequently considered.

The cases, therefore, which form the groundwork of this paper, are only such where epilepsy was the primary event, and where some mental disturbance was observed subsequently to, and as a direct consequence of, the attacks. There are two forms of this disturbance; viz., an acute one, where mental symptoms occur soon after attacks, and disappear again after a certain time; and a chronic form, in which there is a gradual and permanent loss of mental power consequent upon attacks.

The characteristic feature of the acute form of postepileptic mental affection is its periodicity. Identical, or at least highly similar, symptoms are seen to occur year after year, and gradually become intensified, unless they be checked by active treatment. They do not always occur immediately after attacks, but occasionally a day or two afterwards, and last a variable time, but rarely longer than a week. After such an attack is over, the patient has mostly no recollection whatever of what has occurred.

I will now relate as briefly as possible the particulars of a case which was some time ago under my care, and which I consider well suited to illustrate this pathological condition.

An unmarried lady, aged 57, had for three years suffered from epileptic seizures when she came under my care. No cause could be assigned for this illness. There was no neurotic tendency in her family; she had lost her catamenia ten years before, without any trouble; her general health had been good, and her life comparatively uneventful, although well employed. She had had no anxiety, and her habits had always been regular and temperate. From the first, the disease had followed such a regular course that it was possible to predict, with a great degree of accuracy, the time when attacks would take place, and what would be their consequences; and this course had not been influenced by the treatment which the patient had undergone.

The usual sequence of events was as follows. Having gone to bed as usual, and slept the first part of the night, she has, generally between 3 and 5 A.M., a sort of convulsive munching and swallowing in the mouth and throat, which lasts one or two minutes, and which is accompanied by a rolling or rumbling noise in the stomach. There is rhythmic action of the muscles of mastication and deglutition, as one sees it in the ruminating of sheep. After this munching and swallowing is over, she relapses into a quiet sleep, from which she awakes in half an hour or so, in a bewildered state of mind, asking what day it is, what o'clock it is, over and over again, and being quite incapable of collecting her thoughts. Her attendants then give her some medicine, which she swallows, and then goes to sleep again, awakes in a few hours for good, quite herself again, and has not the slightest recollection of anything that has occurred. Such attacks are followed by a slight but perceptible loss of memory, and occur generally at intervals of from ten to twelve days. Sometimes, however, there are two or three such attacks in one night.

More severe attacks take place every four to six weeks. These also begin with munching and swallowing; but then she does not awake at all, but lies, with her eyes wide open, quite unconscious for hours. After a time, a tremulous motion of the whole body is observed, and a half-suppressed noise in the throat. The tremor so on becomes intensified into convulsion; the head turns round to the left side; a moaning sound is produced, the eyes are turned upwards; and this convulsion, which is at first tonic and afterwards clonic, lasts from three to ten, twenty, and even twenty-five minutes. The head then gradually turns back, and the eyes close; and a sort of heavy puffing comes on, with a slight flow of saliva from the mouth, the face being a good deal flushed. The

tongue is not bitten, which is perhaps accounted for by the patient having lost all her teeth, and wearing a set of artificial ones, which is habitually removed at bedtime. The excretions are not passed into bed.

Sometimes there is only one such great convulsive attack, but she has had two, three, and even five, in succession, in the same night. After the convulsion she falls into a deep sleep of some hours, then awakes for an instant, opens her eyes, complains of violent headache, and again becomes comatose. She awakes again after a few hours, complains of her head, and sometimes recognises those about her, while at other times she takes no notice whatever. Towards evening of such a day, however, she becomes wakeful, conscious, and collected, and then falls into a sound natural sleep, which generally lasts till morning.

The second day she complains of pains all over, and, although remaining in bed, gets no sleep all that day, nor the following night, and she then becomes very restless, feverish, and delirious; the pulse is 120, and sometimes 140; the temperature is 102°; she hears voices and sounds; the screaming and screeching which is going on all around her is, she says, dreadful; she sees terrible visions, and talks incessantly and quite incoherently, in a highly pitched voice, repeating constantly religious hymns, which is the only thing that gives her comfort. This goes on for two or three or more days and nights, until sleep ensues, and the mind then gradually recovers its tone; and in a few days she appears as well as ever, until another great convulsive attack comes on, when the same phenomena are repeated.

Since the commencement of her illness the patient has been subject to the delusion that a cock, in a yard adjoining her house, was speaking to her, repeating constantly the name of her medical attendant, Dr. A. The bird was ultimately removed, at the particular request of the patient's friends; and on returning home from a journey, she immediately missed it, and said she thought it must have died. This cock was an only one, in one yard; in another yard close by, there were others, but they did not affect her at all. The patient's friends were quite unconscious of any difference of sound between the crowing of any of them. After some months had passed, the offending bird was, unknown to the patient and her friends, brought back, and was immediately detected by the patient as always calling out Dr. A.'s name and other things. Soon after this, they came to London to place the patient under my care; and although they occasionally heard cocks crowing there, she did not mind them at all. When she returned home, the offender had again been removed; there were, however, others which were very noisy, and disturbed the patient's friends a good deal; but she slept so well herself that she did not notice them. As her sleep, however, lessened, she began to notice them, about the same time complaining of her head. She said that these cocks were all saying: "just going away by the railway, away, away;" wondered that her friends did not hear them distinctly say so, and felt sure that they were taught by the school-children as they passed by, for their amusement.

The patient never had any recollection, after recovering from the attacks, that anything unusual had taken place. She sometimes refused to take medicine, insisting that there was nothing the matter with her. When a medical man was consulted, she said that her friends were deceiving him, that she was quite well, and it was extraordinary that they should always think her ill.

Another peculiar symptom in this patient, which, however, occurred only off and on, was a dream of some horrible smell, three or four nights before a great convulsive attack would come on. On

waking in the morning, she would ask her attendants why they had put such a horribly smelling ointment into her hair; she had dreamt the whole night of it; she was smelling it now; and for the next few hours was constantly sniffing, and complaining of other bad smells in the house, which did not exist; then she would cease to mention the subject, and three or four days afterwards a great attack would come on.

This patient remained for a considerable time under my care, and eventually recovered to a very great extent from her illness. I found that the postepileptic delirium, which constituted the most alarming feature of the case, more especially as it was gradually becoming more severe and prolonged, was quite, or very nearly, uninfluenced by sedatives, of which I used morphia, atropia, henbane, cannabis Indica, and hydrocyanic acid; but that it yielded almost at once, and like a charm, to full doses of quinine. When I first used this latter drug, the delirium had lasted for five days, and showed symptoms of aggravation rather than abatement as time went on. The first dose of four grains of quinine, dissolved in hydrochloric acid, diminished the "screeching," of which she had chiefly complained, very considerably; after a second dose, she heard some voices quite at a distance, but not so as to alarm her; after a third dose, all delusions had vanished, and she was perfectly quiet and rational. Having ascertained this, I ordered quinine, during the further progress of the case, to be taken the first day after a great attack, so as to prevent the occurrence of delirium; and the drug proved equally efficacious as a preventive as it had done as a curative. The patient is still alive, and has never since had further attacks of postepileptic delirium.

The epilepsy itself proved more troublesome, but yielded ultimately almost entirely to treatment, in which hyoscyamus, atropia, and bromide of potassium played the principal part. The patient has for years been free from munching and swallowing, as well as from great attacks; but, when discontinuing certain medicines altogether, has had occasional relapses, which have again yielded when the treatment was resumed.

An interesting symptom in this case was the character of the smaller attacks. It has lately been asserted that the epileptic discharge never, or hardly ever, originates in the medulla oblongata, but always in the grey matter of the hemispheres. The case which I have just related shows that it may commence in the medulla oblongata as well as in any other portion of the brain; for the convulsive munching and swallowing which I have described point clearly to the grey nuclei of the minor portion of the fifth nerve and the pneumogastric, which are situated on the floor of the fourth ventricle, as the principal portion affected. No doubt the higher centres did not escape the pathological influence, as shown by the loss of consciousness, the olfactory aura, and other unmistakable signs; yet it would be pushing a theory to unjustifiable extremes to deny, in the present case, that the grey nuclei in the medulla oblongata were particularly and primarily affected.

Similar attacks of delusions, hallucinations, and religious excitement, with subsequent utter forgetfulness of what had occurred, took place in twenty-two out of the 161 patients, or 13.6 per cent. Mania, with ideas of persecution, was observed in twelve patients, or 7.4 per cent. In them, the prevailing notion was, that secret poisoning was intended, or that murderers were hidden under the bed or behind a door, or prowling about the house. A quiet happy delirium, in which everything was delightful, and the patient had actually entered paradise, occurred in three cases, or 1.8 per cent.

The remaining 124 patients, or 77 per cent., suffered from chronic loss of mental power, and the degrees of this varied from simple de-

iciency of memory and slight faultiness of judgment, to complete imbecility. The number and severity of fits which took place, appeared to have had no determining influence on this condition. In the most severe case of this malady which has ever been under my care, and in which more than 10,000 well marked epileptic fits had taken place when the patient came under treatment, the mind was, even at the worst stage of the disease, hardly at all affected. The patient made a good recovery, and has now been perfectly well for eighteen years. She is now a lively clever woman, a great conversationalist, with an excellent memory, of whom no one, who was to meet her in society, would imagine that she had successfully stood the ordeal of such an awful complaint.

The chronic form of postepileptic mind-affection, is, in general, equally characteristic and peculiar as the acute form. Sometimes sooner, sometimes later, there is a kind of dulness, stupidity and hebetude, which is betrayed to the observer at the first glance by the vacant and silly facial expression of the patient. He often does not know that he has had an attack; when questioned, he gives no answer, or an inappropriate one. His articulation is generally affected; his memory, for recent events, is impaired, while he still remembers very well things which happened long ago. His temper becomes sullen and morose; and this appears sometimes to come on spontaneously, while, in other cases, it is evidently the consequence of being at complete variance with his surroundings, and, so to speak, at war with society. The epileptic finds all the avenues of life closed to him. When he has had a fit in an office or a workshop, he is generally discharged from his situation, and finds it difficult, or impossible, to procure another one; he is shut out from most hospitals and convalescent institutions by special regulations, and is a source of terror to his family. The younger members of the family are often withdrawn from intercourse with him, for fear of their becoming infected with the epileptic habit. He therefore considers himself ill-used and unjustly treated, and gives vent to his indignation at the slightest provocation. Feeling himself, as it were, alone in the world, he becomes in turn utterly selfish, and loses all regard for his friends and relations.

This feeling of isolation often makes him turn towards Heaven as the only consolation left to him. The only book which he reads is the Bible, and he seeks, by constant prayer and devotional exercises, to induce Providence to work a miracle in his favour and cure him. There is a deep inner consciousness that he is the subject of a dreadful malady; and this distinguishes postepileptic imbecility from other forms of mental disease, where the patient is quite unaware that there is something the matter with him. Yet he does not like to be considered a fool; and, like the cad who insists that he is a gentleman, or like the inebriated who swears that he is perfectly sober, the epileptic endeavours to impress upon people that his mental faculties are as good as theirs, and he therefore launches out into those endless arguments about trifles, more especially relating to himself, his habits, his diet, etc., which constitute him, even at best, an intolerable companion, and try the patience of his friends and medical attendants to the utmost.

Some time ago I had such a patient under my care who would, if I let him, discourse by the hour on the virtues of Ind, Coope, and Co.'s ale and its superiority, in his case, to porter. This man, although generally stupid, had a good head for figures; and he was improving, not only as far as fits were concerned, but also in his mental peculiarity, when one day he went to take a warm bath in a public establishment, and was soon afterwards found drowned by the bath-attendant, having evidently had a fit while in the water.

Treatment has much influence on this condition. Large doses of



